

IN THE CLAIMS:

Please amend claims 1 to 8 to read as follows. Copies of these amended claims, marked to show changes from their prior versions, are set forth in Appendix A attached hereto.

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1. (Amended) A method of determining the timing for a synchronous integrated circuit, the circuit including a multiplicity of clocked elements interconnected by signal paths, the method comprising:

1) Forming predictions for timing delays in said signal paths in the integrated circuit;

2) Selecting a first such path, tracing wires in the integrated circuit forming the path, hereinafter referred to as victim wires, and determining adjacent and crossing wires thereto, hereinafter referred to as aggressor wires;

3) For each aggressor wire, determining the amount of electromagnetic coupling to the victim wires of the first path;

4) Dividing the aggressor wires into a plurality of categories depending on the clocked timing of the aggressor wires in relation to the clocked timing of the victim wires;

5) Allowing a user to select a mode of operation; and

6) For each victim wire, modifying the predictions formed in step (1) based on the effects of the aggressor wires only in those categories corresponding to the mode of operation selected by the user.

2. (Amended) A method according to claim 1, wherein step (3) is carried out taking into account one or more of the following factors:

- a) whether the aggressor wire crosses or runs parallel to the victim wire;
- b) the signal strengths in the victim and aggressor wires;
- c) the layers in the integrated circuit which the wires are disposed; and
- d) what type of signal is carried on the aggressor wire.

3. (Amended) A method according to claim 1, wherein the aggressor wires are divided into three categories of likely, possible or unlikely to affect the timing of the victim wire.

4. (Amended) A method according to claim 3, wherein the mode of operation selected by the user causes only the effects of the aggressor wires in the likely category to be taken into account.

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5. (Amended) A method according to claim 3, wherein the mode of operation selected by the user causes only the effects of the aggressor wires in the likely and possible categories to be taken into account.

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6. (Amended) A method according to claim 3, wherein the mode of operation selected by the user causes the effects of the aggressor wires in none of the categories to be taken into account.

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7. (Twice Amended) A method according to claim 3, wherein the effects of aggressor wires in any category are scaled according to their respective electrical signal coupling with the victim wire.

8. (Amended) An apparatus for determining the timing of a synchronous integrated circuit, the circuit including a multiplicity of clocked elements interconnected by signal paths, the apparatus comprising:

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1) Means for forming predictions for timing delays in said signal paths in the integrated circuit;

2) Means for selecting a first such path, tracing wires in the integrated circuit forming the path, hereinafter referred to as victim wires, and determining adjacent and crossing wires thereto, hereinafter referred to as aggressor wires;

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3) Means for determining the amount of electromagnetic coupling, for each aggressor wire, to the victim wires of the first path;

4) Means for dividing the aggressor wires into a plurality of categories depending on the clocked timing of the aggressor wires in relation to the clocked timing of the victim wires;

5) Means for allowing a user to select a mode of operation; and

6) Means for modifying the predictions formed in step (1), for each victim wire, based on the effects of the aggressor wires only in those categories corresponding to the mode of operation selected by the user.

Please add claims 9 to 16 as follows:

--9. A method according to claim 1 wherein the aggressor wires are divided into the plurality of categories in step (4) based on a likelihood that they will perturb a given victim wire.

10. An apparatus according to claim 8 wherein the aggressor wires are divided into the plurality of categories by said means (4) based on a likelihood that they will perturb a given victim wire.

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11. A method according to claim 1 wherein the predictions are modified in step (6) by adding a margin of error to the timing delay predicted for a corresponding victim wire in step (1).

12. A method according to claim 11 wherein the margin of error depends upon a number of the aggressor wires in each of the categories corresponding to the mode of operation selected by the user.

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B 13. A method according to claim 11 wherein the margin of error depends upon the amount of electromagnetic coupling of the aggressor wires in each of the categories corresponding to the mode of operation selected by the user.

14. An apparatus according to claim 8 wherein the predictions are modified in step (6) by adding a margin of error to the timing delay predicted for a corresponding victim wire by said means (1).

15. An apparatus according to claim 14 wherein the margin of error depends upon a number of the aggressor wires in each of the categories corresponding to the mode of operation selected by the user.

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16. An apparatus according to claim 14 wherein the margin of error depends upon the amount of electromagnetic coupling of the aggressor wires in each of the categories corresponding to the mode of operation selected by the user.--

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IN THE ABSTRACT:

Please delete the Abstract in its entirety and substitute the following therefor: